

Response Under 37 C.F.R. §1.111
Serial No.: 10/820,438
Response dated: March 10, 2006
In reply to the Office action mailed: November 10, 2005

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Amendments to the Claims

The following listing of claims shall replace all prior listings, and versions, of claims in this application.

Listing of Claims

1. (Currently Amended) A child safety seat sensor system comprising:
a main plate configured for attachment to a fixed vehicle structure, said main plate disposed in a first plane;
a movable member having a portion at least partially disposed in an opening in said main plate, said movable member comprising a connection portion bar extending from beyond said main plate in a second plane oriented at an oblique angle relative to said first plane, said connection portion comprising a connection bar for receiving an attachment mechanism fixed to said child safety seat;
at least one magnet fixed to said movable member; and
a Hall device disposed adjacent said magnet and fixed to said main plate, whereby tension on said connection bar causes relative motion between said at least one magnet in and said Hall device,
said Hall device providing a first output upon application of tension to said bar and a second output when tension is removed from said bar.
2. (Cancelled)
3. (Currently Amended) A sensor assembly according to claim 1, wherein said assembly system further comprises at least one spring for biasing said movable member in a first position relative to said main plate.
4. (New) A sensor assembly according to claim 1, wherein said system comprises two opposed magnets fixed to said movable member, said magnets oriented with a same magnetic pole facing one another, and wherein said Hall device is disposed between said opposed magnets.

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5. (New) A sensor assembly according to claim 1, wherein said oblique angle is about 30 degrees.

6. (New) A sensor assembly according to claim 1, wherein said opening in said main plate comprises a cutout in said main plate.

7. (New) A sensor assembly according to claim 1, wherein said main plate is configured for attachment to fixed vehicle structure adjacent to a seat assembly, and said connection bar is configured to extend between a seat back and a seat cushion of said seat assembly.

8. (New) A system comprising:

a seat assembly comprising a seat back portion and a seat cushion portion;

a sensor main plate configured for attachment to a fixed vehicle structure adjacent to a rear side of said seat assembly, said main plate disposed in a first plane;

a movable member having a portion at least partially disposed in an opening in said main plate, said movable member comprising a connection portion extending from said main plate in a second plane oriented at an oblique angle relative to said first plane, said connection portion comprising a connection bar for receiving an attachment mechanism fixed to said child safety seat,

at least one magnet coupled to said movable member; and

a Hall device disposed adjacent to said magnet and fixed to said main plate, whereby tension on said connection bar causes relative motion between said at least one magnet and said Hall device,

said Hall device providing a first output upon application of tension to said connection bar and a second output when tension is removed from said connection bar.

9. (New) The system according to claim 8, wherein said connection bar comprises an ISOFIX bar.

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10. (New) The system according to claim 8, wherein said opening in said main plate comprises a cutout, at least a portion of said movable member being disposed in said cutout.

11. (New) The system according to claim 8, further comprising at least one spring for biasing said movable member in a first position relative to said main plate.

12. (New) The system according to claim 8, wherein said system comprises two opposed magnets coupled to said movable member, said magnets oriented with a same magnetic pole facing one another, and wherein said Hall device is disposed between said opposed magnets.

13. (New) The system according to claim 8, wherein said oblique angle of said first plane relative to said second planes is about 30 degrees.

14. (New) The system according to claim 8, wherein said sensor main plate is configured to be attached to a fixed vehicle structure via a tapered mounting bracket.

15. (New) The system according to claim 8, wherein said movable member comprises a magnet holder at least partially disposed in said opening in said main plate, and said connection portion is affixed to said magnet holder.

16. (New) The system according to claim 15, wherein said magnet holder comprises an opening and said magnet is configured to be received in said opening.

17. (New) The system according to claim 8, wherein said movable member comprises an opening for receiving said Hall device.

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18. (New) The system according to claim 8, further comprising a front and rear cover configured to be attached to said main plate for at least partially enclosing at least a portion of said movable member.

19. (New) A system comprising:

a seat assembly comprising a seat back portion and a seat cushion portion;

a sensor main plate configured for attachment to a fixed vehicle structure adjacent to a rear side of said seat assembly, said main plate disposed in a first plane;

a movable assembly comprising a magnet holder at least partially disposed in an opening of said main plate, a connection portion extending from said main plate in a second plane oriented at an oblique angle relative to said first plane, said connection portion comprising an ISOFIX bar for receiving an attachment mechanism fixed to said child safety seat coupled to said magnet holder,

at least one magnet at least partially received in an opening of said magnet holder; and

a Hall device disposed adjacent to said magnet and fixed to said main plate, whereby tension on said ISOFIX bar causes relative motion between said at least one magnet and said Hall device,

said Hall device providing a first output upon application of tension to said ISOFIX bar and a second output when tension is removed from said ISOFIX bar.

20. (New) The system according to claim 19, wherein said oblique angle of said first plane relative to said second planes is about 30 degrees.

21. (New) The system according to claim 19, wherein said system comprises two opposed magnets at least partially received in respective openings of said magnet holder, said magnets oriented with a same magnetic pole facing one another, and wherein said Hall device is disposed between said opposed magnets.